

Young drivers with autism spectrum disorder may need more time to learn basic driving skills

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When first learning to drive, young adults with autism spectrum disorder (ASD) have more difficulty with basic driving skills compared to those with typical development (TD), reports a study in the *Journal of Developmental & Behavioral Pediatrics*, the official journal of the Society for Developmental and Behavioral Pediatrics.

But licensed [drivers](#) with ASD have similar basic driving skills as their TD peers—even under more demanding conditions, according to the study by researchers at Drexel University, Philadelphia. "We hope our findings will help in developing targeted approaches to help teens and [young adults](#) with ASD to become safe drivers, helping to promote their independence in many aspects of life," comments lead author Kristina Elise Patrick, Ph.D., now at Nationwide Children's Hospital, Columbus, Ohio.

Less-Experienced Drivers with ASD Have More Problems with Driving Skills

The study included two matched groups of young drivers, aged 16 to 26 years: 50 with ASD and 50 with TD. None of the participants had been diagnosed with intellectual disability; the ASD and TD groups were similar in terms of age, gender, driver's license status, and IQ.

All participants underwent a structured driving assessment using a virtual reality driving simulator. During the simulation, the driving tasks become progressively more challenging, with added distractions and more complex driving conditions. The two groups were compared for basic driving skills, such as speed and lane positioning.

The two groups had similar performance in terms of maintaining the speed limit. However, drivers with ASD showed increased variability in speed

and lane management, compared to drivers in the TD group. These differences suggested "difficulty with self-monitoring and regulation of pedal pressure and steering wheel control," Dr. Patrick and coauthors write.

The differences between the drivers with ASD versus TD were more pronounced in more challenging driving environments. This was so not only in more complex driving conditions, such as adjusting to a change in speed limit or construction zone; but also when engaging in secondary, potentially distracting tasks, such as tuning the radio or engaging in social conversation.

However, the differences in performance for drivers with ASD depended on driver's license status. Among unlicensed drivers, the ASD group had greater variability in speed and/or lane positioning, compared to the TD group. But among those who had their driver's license, there were no significant differences between the drivers with ASD versus TD. For many tasks, there was also similar performance for drivers with ASD and TD who had their learner's permit.

Affecting approximately 1 in 68 children, ASD is a common neurodevelopmental condition. With early recognition and access to effective treatments and support, many young people with ASD have educational, occupational, and social opportunities similar to those of their TD peers. The ability to drive is a developmental milestone in American society, and an important part of independent functioning.

Studies suggest that only about one-third of teens with ASD have their driver's license—perhaps due to concerns about their ability to drive safely. The new driving simulator study is one of the first objective assessments of driving ability in teens and young

adults with ASD, compared to young people with TD.

"Our findings suggest that unlicensed young adults with ASD may have more difficulty than their peers developing basic driving skills," Dr. Patrick and coauthors write. "That said, those individuals with ASD who do acquire driver's licenses may demonstrate comparable skills to TD drivers during most tasks."

Dr. Patrick and colleagues are working on further studies of variables that may affect driving performance in young adults with ASD, and whether difficulty with basic driving skills translates to more overt driving errors. The researchers conclude, "Individually tailored driving interventions with a focus on graduated exposure to increasingly complex environments may be beneficial for individuals with ASD, particularly in the early stages of driver training."

More information: Kristina E. Patrick et al. Driving Comparisons Between Young Adults with Autism Spectrum Disorder and Typical Development, *Journal of Developmental & Behavioral Pediatrics* (2018). [DOI: 10.1097/DBP.0000000000000581](https://doi.org/10.1097/DBP.0000000000000581)

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